REMARKS

Claims 1-49 are pending, with claims 1, 18, 35, 46 and 48 being independent. Claim 18 has been amended. No new matter has been added. Reconsideration and allowance of the above-referenced application are respectfully requested.

Rejections Under 35 U.S.C. § 112

Claims 48 and 49 stand rejected under 35 U.S.C. § 112 as allegedly being indefinite. This contention is respectfully traversed.

The Office Action states, "since no function is specified by the word(s) preceding 'means,' it is impossible to determine the equivalents of the element, as required by 35 U.S.C. § 112, sixth paragraph. *See Ex parte Klumb*, 159 USPQ 694 (Bd. App. 1967)." (*See* 05/07/2007 Office Action at page 2.) However, Ex parte Klumb does not hold that words preceding "means" must specify a function. Rather, the manner in which a "means-plus-function" element is expressed, either by a function followed by the term "means" or by the term "means for" followed by a function, is unimportant so long as the modifier of that term specifies a function to be performed. (*See Ex parte Klumb*, 159 USPQ 694, 695.) In claims 48 and 49, the modifiers of the "means for" term clearly specify functions to be performed.

Claim 48 recites, "means for **accessing**" and "means for **outputting**", and claim 49 recites, "means for **controlling**." Thus, the functions are clearly specified, the claim language is definite, and the equivalents of the elements can be readily determined in view of the specified functions and the specification's description (*see e.g.*, Specification at ¶s 19, 22 and 25-28).

Moreover, the fact that the claim language also defines further details regarding the specified functions (i.e., "**software-application** means for ...") does not render the claim language indefinite, but rather serves to further limit and clarify the claimed subject matter in that this language limits the range of equivalents to software-application means for carrying out the specified functions.

Therefore, claims 48 and 49 are definite, and withdrawal of the rejection of claims 48 and 49 under 35 U.S.C. § 112 is respectfully requested.

Rejections Under 35 U.S.C. § 102

Claims 1, 18, 35-39, 48 and 49 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Singhal et al. (U.S. 5,488,385, hereinafter Singhal). This contention is respectfully traversed.

Independent claim 1 recites, "**identifying, by a software application** in a computing system, display characteristics of multiple display devices; and **generating, by the software application** in the computing system, simultaneous independent views of an electronic document on the display devices by **separately rendering the electronic document** to each of the display devices **based on the identified display characteristics** of the device." (Emphasis added.) Thus, it is the software application itself that performs the claimed identifying and generating. This claimed subject matter can result in significant advantages. For example, as described in the present disclosure, "A professional high-fidelity display presentation can be given from any low-end device, such as a personal digital assistant, and there is no need to know beforehand

what kind of display device might be encountered when it comes time to make the presentation. [...] The data and/or the document format need not be specifically prepared for rendering to a particular target output device, and a presentation can be made to any target output device without specialized presentation hardware." (*See* Specification at ¶s 10-11.)

Singhal does not disclose each and every element of independent claim 1. Singhal does not describe a software application that performs identifying and generating, as claimed. Rather, as described in Singhal:

> Video information is simultaneously generated for presentation on multiple displays by a display system including a video memory having a plurality of addressable storage locations, each storage location providing for the storage of data representing a component of an independent displayable image and a video controller providing a plurality of output display control and data signals connectable to a respective plurality of video displays. The video controller accesses the video memory in a predetermined addressing pattern so as to access a sequence of the components corresponding to a plurality of the independent displayable images. The video controller, in turn, generates the plurality of output display control and data signals whereby the sequence of the components provided by way of each of the plurality of the output display control and data signals corresponds to a respective one of the independent displayable images.

(*See* Singhal at Abstract.)

Singhal does describe control software: "Depending on the control software executed by the processor 12 in management of the video display sub-system 32, two banks of scratch/control data storage area may be utilized in support of the respective configurations desired for the display devices 52, 54. Each bank is identified by a unique set of I/O addresses to the processor

12." (*See* Singhal at col. 5, lines 55-61.) This portion of Singhal teaches the use of separate banks of data storage area for storing information about the different display device configurations, but this **does not** teach that the control software identifies display characteristics of the different display devices, since such information is implicitly already included in the control software.

> An enhanced VGA controller 34 utilizes a video memory 36 as a control register store, frame buffer store and spare memory store in support of two display devices 38, 40. The function of the enhanced VGA controller 34 is to effectively emulate, essentially in a single integrated circuit, two complete VGA controllers, each functionally comparable to the VGA 22, but with some limiting interdependencies related to the access rate and capacity of the shared video memory 36 and the number and nature of any configuration registers that are functionally shared in defining the operation of both of the display devices 38, 40. In the preferred embodiment, the enhanced VGA controller 34 implements separate registers related to establishing the resolution of the display devices 38, 40, but shares the registers that establish the display mode.

(*See* Singhal at col. 5, lines 22-36.) Those of ordinary skill in the art will understand from this that, while some display device configuration elements are specified separately and some are specified commonly for the display devices, the control software itself doesn't perform an identifying operation, as claimed. The control software is emulating the two VGA controllers. When Singhal refers to "establishing the resolution of the display devices", this is referring to setting the resolution to be used with each display device (e.g., based on user input), not identifying resolution capabilities of the display devices. Thus, the control software in Singhal is not identifying display characteristics of multiple display devices, as claimed.

In addition, the control software of Singhal does not constitute a software application as claimed, since the control software is not part of an application layer of the computing system. Rather, the control software of Singhal is emulator code that underlies, and is transparent to, the software applications on the computing system in Singhal. "The logical emulation of multiple conventional VGA display adapters permits full compatibility with conventional software to be maintained, while at the same time greatly reducing the quantity, cost and complexity of the display system hardware." (*See* Singhal at col. 3, lines 11-15.) This makes it very clear that the invention in Singhal lies in the VGA hardware emulation, not the software applications that utilize the VGA hardware.

Furthermore, Singhal does not describe, "**generating, by the software application** in the computing system, simultaneous independent views of an electronic document on the display devices by **separately rendering the electronic document** to each of the display devices **based on the identified display characteristics** of the device." (Emphasis added.) It should be noted that "rendering" is a term of art in the software application field, which is commonly understood by those of ordinary skill in the art to mean, in general, the conversion of a high-level object-based description into a graphical image for display. In light of this, it should be clear that Singhal does not teach that his control software generates simultaneous independent views of an electronic document on the display devices by separately **rendering** the electronic document to each of the display devices based on the identified display characteristics of the device.

Singhal describes the transfer of video frame data (i.e., graphical images) from memory to the display devices, **not rendering** (i.e., the conversion of a high-level object-based description into a graphical image for display). As described in Singhal:

> As illustrated in FIG. 3a, the video display sub-system 32 utilizes a single video control unit 50 to implement the dual VGA controller emulation. The video control unit 50 also generates the control and timing signals and directs the transfer of video data to two independent display devices that are, in the preferred embodiment, also distinctly different in their intrinsic timing requirements. [...] The VGA register control data programmed by the CPU 12 to control the operation of the video controller 50 is stored in registers internal to the video control unit 50. [...] The primary function of the video controller 50 is to transfer frame data from the image memory section 58 of the video memory 36 to a frame data multiplexer via data lines 80.

(*See* Singhal at col. 5, lines 40-47, 51-53, and col. 6, lines 25-28.) This transfer of graphical images, in accordance with timing characteristics of the display devices and the VGA controllers being emulated, cannot be equated with the presently claimed, "generating, by the software application in the computing system, simultaneous independent views of an electronic document on the display devices by **separately rendering** the electronic document to each of the display devices based on the identified display characteristics of the device" (emphasis added), since no rendering is being performed by the control software of the video control unit 50 in Singhal.

Moreover, it should be noted that Singhal clearly states that his purpose is to display "independent video information simultaneously on multiple display devices." (*See* Singhal at col. 2, lines 26-30.) This is not the same as generating **simultaneous independent views** of **an electronic document**, as claimed. While it is true that some rendering of documents surely

occurs in the computing system of Singhal when in operation, nothing in Singhal describes **a software application** that both identifies display characteristics of multiple display devices and generates **simultaneous independent views** of **an electronic document** on the display devices by **separately rendering** the electronic document to each of the display devices **based on the identified display characteristics** of the device. For all of the above reasons, independent claim 1 should be in condition for allowance.

Independent claims 18, 35 and 48 include features similar to independent claim 1 and should thus be patentable for at least similar reasons. Independent claim 18 recites, "A software product tangibly embodied in a machine-readable medium, the software product comprising instructions operable to cause a data processing apparatus to **perform operations from an application layer** of the data processing apparatus, the operations comprising: **identifying display characteristics** of multiple display devices; and **generating simultaneous independent views** of **an electronic document** on the display devices by **separately rendering** the electronic document to each of the display devices **based on the identified display characteristics** of the device." (Emphasis added.) As addressed above, Singhal does not describe the claimed identifying and generating operations performed **from an application layer** of a data processing apparatus. Thus, independent claim 18 should be in condition for allowance.

Independent claim 35 recites, "one or more peripheral display devices; and a data processing system comprising a primary display device and **a software application** that generates **simultaneous independent views** of **an electronic document** on the display devices **based on display characteristics** of the display device as **identified by the software**

application." (Emphasis added.) Singhal does not describe a software application that generates simultaneous independent views of an electronic document on the display devices based on display characteristics of the display device as identified **by the software application**. Thus, independent claim 35 should be in condition for allowance.

Dependent claims 36-39 should be allowable over Singhal based on the above arguments and the additional recitations they contain. For example, claim 37 recites, "wherein the software application identifies the display devices that are currently interfaced with the data processing system by **periodically polling** display interface hardware." (Emphasis added.) The Office Action fails to address this claimed subject matter, disregarding the claim language when making the rejection. (*See* 05/07/2007 OA at page 4.) Thus, claim 37 should be allowable for at least this additional reason.

Independent claim 48 recites, "software-application means for accessing an electronic document; and **software-application means** for outputting multiple, **simultaneous, independent views** of **the electronic document** to different display hardware devices having different screen resolutions and color depths." For reasons similar to those addressed above, it should be clear that Singhal does not describe **software-application** means for outputting multiple, **simultaneous**, **independent** views of the **same electronic document** to different display hardware devices, as claimed. Thus, independent claim 48 should be in condition for allowance.

Dependent claim 49 should be allowable over Singhal based on the above arguments and the additional recitation it contains. Claim 49 recites, "software-application means for

controlling the outputting software-application means based on **user** configuration." (Emphasis added.) The cited portion of Singhal (col. 5, lines 51-60) says nothing about enabling a **user** to control how the video control unit 50, or the control software of Singhal operate. Thus, claim 49 should be allowable for at least this additional reason.

Rejections Under 35 U.S.C. § 103

Claims 2-8, 11, 19-25, 28, 41 and 42 stand rejected as allegedly being unpatentable under 35 U.S.C. § 103(a) over Singhal in view of Terayama et al. (US 7,010,551). This contention is respectfully traversed.

Terayama et al. fails to cure the deficiencies of Singhal. Thus, dependent claims 2-8, 11, 19-25, 28, 41 and 42 should be allowable over the cited art, based on the arguments presented above, and the additional recitations these claims contain. For example, claim 2 recites, "**rendering** [...] according to presentation tags [...] **indicating device-dependent rendering** to be applied." Terayama et al. describes "**extracting**, from an HTML file [...], data displayable on a limited-capability device, in accordance with the identifiers, [...] the file conversion method comprising: a step of determining what characteristic of the HTML file is to be converted; a step of detecting the tags by reading the file; a step of determining whether the data indicated by the detected tags is displayable on the limited-capability device; a step of extracting the data, the start and the end of which are indicated by the detected tags and which is determined to be displayable on the limited-capability device." (*See* Terayama et al. at col.17, line 65, to col. 18, line 16.) Nothing in the cited portion of Terayama et al. suggests that the tags indicate device-

dependent rendering. In fact, there is no indication that these tags are designed to specify which content is to be rendered to which display device. Rather, the method in Terayama et al. checks the tags to see the indicated data is displayable on the limited-capability device. In other words, the information linking the data to a specific type of display device is in the software performing the method only, not the tags themselves. Thus, Terayama et al. does not teach or suggest separately **rendering** an electronic document **according to presentation tags** associated with content in the electronic document, the presentation tags **indicating device-dependent rendering to be applied** to the content **based upon assigned device types of the display devices**. Thus, claims 2-4 should be allowable over the cited art for at least this additional reason.

Claims 46 and 47 stand rejected as allegedly being unpatentable under 35 U.S.C. § 103(a) over Singhal in view of Okuley et al. (US 6,956,542). This contention is respectfully traversed.

Independent claim 46 recites, "one or more peripheral display devices; and a data processing system comprising a primary display device and **a software application** that **generates simultaneous independent views** of **an electronic document** on the display devices **based on display characteristics** of the display device **as identified by the software application**, wherein a primary view from the independent views includes rendered content not included in a secondary view from the independent views, and the primary view includes at least a portion of a user interface that provides control over the independent views on the display devices both together and separately, and the secondary view forms part of a presentation." (Emphasis added.) For reasons similar to those addressed above, it should be clear that Singhal

does not describe a data processing system comprising a primary display device and **a software application** that **generates simultaneous independent views** of an electronic document on the display devices **based on display characteristics** of the display device **as identified by the software application**. In addition, Okuley et al. fails to cure the deficiencies of Singhal. Thus, independent claim 46 should be in condition for allowance, and dependent claim 47 should be allowable based at least on its dependence form claim 46.

Claims 9, 10, 12-15, 26, 27, 29, 31, 32 and 40 stand rejected as allegedly being unpatentable under 35 U.S.C. § 103(a) over Singhal in view of Shih (US 7,102,591). Claim 43 stands rejected as allegedly being unpatentable under 35 U.S.C. § 103(a) over Singhal in view of Terayama et al., and further in view of Tafoya et al. (US 5,917,480). Claims 44 and 45 stand rejected as allegedly being unpatentable under 35 U.S.C. § 103(a) over Singhal in view of Terayama et al. in view of Tafoya et al., and further in view of Meyn et al. (US 5,859,623). Claims 13, 16, 17, 30, 33 and 34 stand rejected as allegedly being unpatentable under 35 U.S.C. § 103(a) over Singhal in view of Shih, and further in view of Meyn et al. These contentions are respectfully traversed.

Neither Shih, Tafoya et al. nor Meyn et al. cure the deficiencies of Singhal. Thus, all of dependent claims 9, 10, 12-17, 26, 27, 29-31, 32-34, 40 and 43-45 should be allowable over the cited art, based on the arguments presented above, and the additional recitations these claims contain. For example, claim 12 recites, "wherein generating the independent views of the electronic document comprises generating **a user interface** with the first view that provides **control over the independent views** on the display devices **both together and separately**."

(Emphasis added.) The Office Action contends that the claimed user interface is inherent in Singhal's reference to "notebook computers" at col. 4, line 59. (*See* 05/07/2007 Office Action at page 9.) This inherency assertion is specifically traversed and is not conceded.

To establish an inherent feature not expressly disclosed, it must be clear "that the missing descriptive matter is **necessarily present** in the thing described," (See MPEP § 2131.01, citing *Continental Can Co. USA v. Monsanto Co.*, 948 F.2d 1264, 1268 (Fed. Cir. 1991), emphasis added). While notebook computers do have user interfaces, notebook computers do not **necessarily** have a user interface, generated with a first view of simultaneous independent views of an electronic document, that provides control over the independent views on display devices **both together and separately**. As described, for example, in the present disclosure:

> The user interface can be generated to provide control over the independent views. A presenter can use a single user interface on one machine to control the views on both that machine and a second machine displaying a presentation to an audience. For example, the presenter can use the user interface to make notes in the electronic document during the presentation, where those notes do not appear in the view of the document that the audience sees, and the presenter can use the user interface to adjust the zoom level on the audience view without affecting a zoom level on the machine presenting the user interface. Thus, the user interface can apply different functionality differentially among the display devices, including potentially exposing different kinds of functionality for the different display devices.

(*See* Specification at ¶ 28.) Nothing in Singhal teaches or suggests this subject matter, as claimed, either expressly or inherently. Thus, claim 12 should be allowable for at least this additional reason.

Conclusion

The foregoing comments made with respect to the positions taken by the Examiner are not to be construed as acquiescence with other positions of the Examiner that have not been explicitly contested. Accordingly, the above arguments for patentability of a claim should not be construed as implying that there are not other valid reasons for patentability of that claim or other claims.

A formal notice of allowance is respectfully requested. In the absence of such, a telephone interview with the Examiner is respectfully requested to discuss the references and the independent claims of the present application.

No fees are due at this time. Please apply any necessary charges or credits to deposit account 06-1050.

Respectfully submitted,

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